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ABSTRACT

This description of career education activities in the Highline Public Schools (Seattle, Washington) was prepared as part of a study conducted to identify evaluated, exemplary career education activities which represent the best of the current career education programs and practices referred to in Public Law 93-380. (See CE 018 212 for the final report of this study.) This document describes one of the ten projects that were selected from among 250 projects submitted. It presents one locale's way of successfully implementing a career education activity, the results of which are educationally significant. Each of the ten projects reported is described in terms of project overview; program development; materials and activities; parent and community involvement; staffing and management; costs; evidence of effectiveness; and conclusions. The ultimate goal of the Highline Equality Project was to expand students' perceptions of occupations open to females and those to males. (The specific objectives dealt primarily with the acquisition and development of media and materials that enhance the availability of choice for all students in the elementary classroom and reflect the changing definition of "women's work.") The primary subjects are identified as K-6 students from a predominantly white, middle-class neighborhood, and the evaluation design is described as a pre- and posttest design using comparable groups of treatment and control students. (BM)

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PROJECT EQUALITY

Highline Public Schools

Seattle, Washington

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American Institutes for Research

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Highline Public Schools

30 June 1978

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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FOREWORD

This activity description was prepared as part of a study conducted by the American Institutes for Research (AIR) under contract No. 300-77-0303 to the U.S. Office of Education. The purposes of the study were to identify evaluated, exemplary career education activities; to recommend identified activities to the Joint Dissemination Review Panel (JDRP) of the Education Division, Department of Health, Education, and Welfare; to prepare descriptions of identified activities; and to develop a handbook with six models for evaluating career education activities.

The criteria established for screening activities in this study intentionally limited choices to those whose evaluation reports presented evidence of effectiveness. Close attention was given to the soundness of evidence in evaluation reports. A minimum requirement for this evidence of effectiveness was that some comparison standard be provided so that gains made by the students participating in the activity could be attributed to the impact of the activity. After confidence in the evidence of effectiveness was established, further criteria were applied. These criteria included consistent relationships between a well-planned assessment of needs, a statement of desired student outcomes, the selection of instruments, and the procedures used in data collection, management, and analysis.

This document describes one of ten projects that was selected from among 250 submitted. It presents one locale's way of successfully implementing a career education activity, the results of which are educationally significant. Although the description reflects an activity developed in response to local needs, other school districts with similar needs may wish to adapt parts or all of it according to their own circumstances and philosophy.

We are especially grateful to the original director and staff of Project Equality, and to the many school staff members who generously gave their time to answer questions from AIR site visitors. They extended a special kind of hospitality and spared no amount of effort to provide the information necessary to prepare this description. They made it possible for the site visitors to see the program in action, as well as to understand the philosophy and strategies that underlie its operations.

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PROJECT OVERVIEW

TITLE & LOCATION: Project Equality
Highline Public Schools
Educational Resources and Administrative Center
15675 Ambaum Blvd., SW
Seattle, Washington 98166

TYPE: Infusion

PROJECT DIRECTOR: John D. Ross
Ph: (206) 433-2454

SETTING: Project Equality's home site was the Highline School District near Seattle, Washington where it has been in operation for six years. Field testing was conducted in two neighboring districts, Northshore and Bellevue. These two districts, as well as the Highline district, can be characterized as predominantly middle-class, with 90% or higher white populations.

STAFF: The Project Equality staff consists of a director, an information facilitator, and a secretary.

GOAL: The goal of Project Equality is to expand students' perceptions of occupations open to females and those open to males. The specific objectives to attain that goal have dealt primarily with the acquisition and development of media and materials that enhance the availability of choice for all students in the elementary classroom and reflect the changing definition of what "women's work" is.

EVALUATION DESIGN: The impact of Project Equality activities upon students was assessed in 1977-78 by testing comparable groups of treatment and control students.

MATERIALS: The staff of Project Equality have developed three sets of materials which may be used independently or in combination: occupational simulation packets, the Yellow, Blue, and Red Book, and Many Thousand Words - Work Pictures. Each set of materials is designed to provide students with nontraditional sex role models. The materials present simple, interesting, bias-free activities which demonstrate that work skills can be possessed by persons of both sexes.

COST: The Project Equality materials are relatively low in cost and the program can easily be implemented within any K-6 curriculum. Assuming a district had 3,000 K-6 students and assuming adoption expenditures for staff development, materials and contracted services, per pupil costs would be $2.11 in the first year and $0.95 in subsequent years.

PROJECT DESCRIPTION

Project Equality has attempted to develop and field test procedures for expanding students' perceptions of occupations open to females and those open to males. The specific objectives to attain this goal have dealt primarily with the acquisition and development of media and materials that reflect the changing definition of what "women's work" is. Each set of materials is designed to provide students with nontraditional sex role models. The materials present simple, interesting, bias-free activities which demonstrate that work skills can be possessed by persons of both sexes.

PROGRAM DEVELOPMENT

Project Equality's home site was the Highline School District near Seattle, Washington. Project materials were developed and revised extensively during the first three years of project operation. Final field testing was conducted outside the Highline District to assure that no student exposure to materials had taken place in earlier years. The field test results discussed later in this project description are from two districts, the Northshore and Bellevue School Districts, also near Seattle. These two districts, as well as the Highline School District, can be characterized as predominantly middle-class, with 90% or higher white populations. Northshore School District covers an area which is rapidly evolving from a farm economy to a combination industrial and residential area. The Bellevue School District contains mainly middle and upper middle class families, with a high percentage (67%) of professional, technical and managerial workers. Per-pupil expenditures in the Northshore School District were $1,386 in 1976-77, while in the Bellevue School District they were $1,587.

Like the total populations of the school districts, the K-6 students with whom project-developed materials were used are primarily white and middle class. Achievement levels vary, however. The latest figures from the annual statewide assessment of fourth grade achievement, using the Comprehensive Tests of Basic Skills battery, show Northshore students scoring at the 58th percentile on the average, while Bellevue students scored at the 69th percentile on the average. Students in the Highline School District, where the project materials were originally developed, scored at the 48th percentile. Each student population contained approximately equal numbers of boys and girls.

Needs Assessment: The Nation

An increasing body of research is documenting the occurrence of stereotyped education for girls and young women -- an education that views girls as passive, less task-oriented, and less able than boys. Longer life span, new legislation restricting sex-identification of jobs, and a reduced birth rate have increased the length of time women will be working and have made more varied work roles a definite probability. However, cultural and social influences have restricted girls from performance tasks and tended to concentrate on the homemaker aspects of women's activities. As girls proceed through school, their views of themselves and their role in the world of work become increasingly stereotyped. Through a largely restrictive self-image, classes are chosen and careers begun. If preparation for active, independent adulthood with a potentially successful career is a valid goal, it must be a valid goal for all students -- not exclusively for boys and young men.

Needs Assessment: Local

The need for reducing sex stereotyping first became apparent when the Highline School District involved the community in determining career education goals. In 1971, one of the goals was to provide all students with opportunities to look at career alternatives. After that the district, in coordination with the University of Washington, did a study of fifth grade students in which they were asked to list the kinds of jobs they would like to do. The next question was to describe a day in their work life. The findings showed that boys described work while girls described housework. In general, the study demonstrated that both boys and girls tended to see jobs in terms of masculine and feminine stereotypes, and that occupational aspirations of the fifth grade girls fell heavily into feminine stereotyped roles.

From these and similar findings, it became apparent to district officials that a concerted effort was necessary to counteract the stereotyping that was prevalent throughout the schools. This growing district awareness was reflected in a statement by the Washington State Superintendent of Public Instruction:

> Some specific courses of action to make improvement in this [sex stereotyping] area are:
>
> 1. Special care must be taken in elementary and secondary schools to use textbooks which do not depict men and women in stereotyped sex roles. The content of courses must be revised, where necessary, to give a balanced account of women's contributions to our civilization.

2. Every course of study, including specialized trade and technical courses, must be open equally to boys and girls. Given today's cultural attitudes, it is not enough merely to open the doors. Only a few highly motivated girls are likely to be daring enough to seek entry into fields that have been up to this time exclusively for men. It will be necessary to actively recruit girls in the trade and technical fields with the full cooperation of guidance counselors.

3. Community education programs should be established to enlighten parents on the need to open up career opportunities for women.

4. In-service training must be provided for teachers, guidance counselors and other specialists, paraprofessionals and administrators to prepare them to take an active role in encouraging women to seek careers in whatever fields are best suited to their individual talents.

Superintendent of Public Instruction
State of Washington, Bulletin (#63-72),
July 1972, pp. 3-4

Program Planning

The needs assessment indicated that sex stereotype-free materials in career education were of prime importance. In evaluating a substantial number of commercially-produced career education materials, it was found that few materials dealt equitably with females and males in speaking to their future participation in the work world strictly on the basis of an individual's skills, abilities, interests, and needs. Project Equality was created to fill this void -- to provide materials which were free of sex stereotyping and which demonstrated to students that people of both sexes could perform a variety of job tasks.

Project Goals and Objectives

The goals of Project Equality were to expand (1) girls' perceptions of occupations open to females and those open to males, and (2) boys' perceptions of occupations open to both sexes. The following objectives were developed to meet these goals.

Objective 1: Elementary students in grades K-6, where any one of six occupational simulation packets is used appropriately, will have expanded their perceptions of job options open to females and males.

Objective 2: Elementary students in grades 1-6, where the Yellow, Blue, and Red Book is used appropriately, will have expanded their perceptions of job options open to females and males.

Objective 3: Elementary students in grades 1-6, where the Many Thousand Words - Work Pictures notebook is used appropriately, will have expanded their perceptions of job options open to females and males.

Measure of Achievement

Project Equality adapted the Who Should test from work originally done by Dr. Lynne Iglitzin of the University of Washington. This test was used with all materials and attempted to measure changes in students' perceptions of occupational sex roles. There are two forms of this instrument: one for grade levels K-2, and the other for levels 3-6.

The K-2 form has 26 questions which are read to students by the teacher. The students have only the answer sheet, not the questions. Two sample questions are: "At home, who should wash dishes? Men? Women? Or both?" "Who can use a hammer better? Boys? Girls? Or both the same?" All questions are answered by the students by circling a picture of a boy, or a girl, or a boy and girl standing together.

The grades 3-6 form of the test has four parts with a total of 41 items. As in the K-2 form, teachers read the questions aloud to students. Part I lists 19 occupations such as carpenter and nurse; students circle "man," "woman," or "both" to indicate who should do the job. Part II lists six jobs done in class such as "eraser cleaner"; response options are the same as for Part I. Parts III and IV list jobs done in the home. Response alternatives to Part III are "father," "mother," or "both," and response alternatives to Part IV are "men," "women," or "both."

MATERIALS AND ACTIVITIES

Development of Materials

The major thrust of Project Equality has been the reduction of sex role stereotyping in students at the K-6 grade levels through use of materials which counter such stereotypes in both occupational and home sex roles. To accomplish this purpose, the staff of Project Equality have developed three sets of materials, which may be used independently or in combination. Each set of materials was designed to provide students with nontraditional sex role models. The development of materials extended over the project's first three years of operation (1973-76), with final field testing taking place during the 1977-78 school year.

Set 1: Occupational Simulation Packets. These packets are designed as a hands-on career education activity for elementary students based on the "isolated skills concept," which was drawn from techniques used in vocational rehabilitation. Each packet focuses on a particular skill and then uses that skill in a variety of hands-on work activities within the classroom. All the materials the teacher needs and all the materials the students use are packeted within a box or multiple boxes with very clear teacher directions.

The occupational simulation materials consist of six separate packets, each of which may be used alone. Two packets have been developed for use with grades K-2 students, two for students in grades 3-4, and two for students in grades 5-6. Each packet singles out a saleable work skill required for a wide variety of jobs and already possessed, in some measure, by the student. As students apply their saleable skills in a variety of job-related activities, it becomes clear that (a) a skill is not dependent on sex, and (b) a skill required for one type of work is often transferable to another type of work. Discussion questions for teacher use with the class also emphasize these two points. Each packet, in turn, is described below.

• Color Discrimination -- This packet focuses on the skill of color discrimination and is used at grade levels K-2 since the identification of primary colors is something teachers at those grade levels usually handle. The skill of color discrimination is required in such occupations as interior decorator and electrician and many others. Within this particular packet, students go through three different jobs. The first is that of a factory worker; many factory workers must deal with small items as well as color-coded items. So the students sort telephone wires by their colors and, of course, most of them can do it. They feel very successful; it's a fun, short activity. Another activity in this packet is sorting socks by color. Anyone who works in a store whether as a clerk in a grocery store or as a clerk in an apparel shop, is going to do many things by color. The third job explored is interior decorator. Students use color chips, formica chips that often are available through a variety of sources free of charge, and pieces of wall paper to match colors as the interior decorator.

The time expected to complete this packet is 2-3 hours over a 2-3 week period. Accompanying the packet are the following materials.

Materials List

32 bundles of wire, each wrapped with tape, to include:

16 sets of 4 blue, 4 white, 4 red, 4 gray
16 sets of 4 yellow, 4 orange, 4 purple, 4 black

6 bundles of socks, each bundle to include:

2 red, 2 blue, 2 green, 2 brown, 2 orange
Total - 10 socks or 5 pair in each bundle. Bagged.

32 laminated wall paper sheets

11 bundles of color plates to include:

20 different colors in each set or bundle

1 wire bundle with 10 colors, teacher sample

1 picture each of the following:

Factory Person working with wire
Female Mechanic
Male Store Clerk
Interior Designer

1 picture each of the following:

White background with 3 circles: 2 pink, 1 black
Dark Blue Background with Brown Number 1
Green Background with Red Number 2
Yellow Background with Orange Number 3

• Crawling and Squatting -- Also used at grades K-2, this packet emphasizes the skills of crawling and squatting and demonstrates how they are needed in certain occupations. There are times when nearly everyone has to crawl or squat on the job, e.g., to pick up things dropped on the floor. The main emphasis in this packet is on jobs that require these skills as a regular part of the various job tasks. Some of the activities involve squatting, some crawling and some both. At that age level, teachers are trying to teach youngsters physical mobility -- to get hands and feet going in the right direction. So, in the crawl and squat packet, students go through a carpenter experience, a plumber experience and a stock clerk experience.

The time expected to complete this packet is 2-3 hours over a 2-3 week period. Accompanying the packet are the following materials and specifications.

Materials List

Stock Clerk

6 stock clerk name plates
10 merchandise signs
4 boxes of grocery packages
4 four-foot boards for shelves

Carpenter

6 carpenter name plates
4 pair safety glasses
4 containers of large head nails
4 hammers
1 piece of wood for hammering
1 ball yarn

Plumbers

6 plumber name plates
4 clamps for mounting stationary pipe to table
2 plumbing-pipe assemblies

General

6 aprons
15 clamps for apron name plates
2 tunnels
3 laminated water color posters

Teacher needs to provide:

Blocks or books or chairs for forming the outside of the house -- and also to create shelves for the stock clerk activity.

The teacher's guide for this packet requires that the teacher, in advance of the store clerk activity, set up shelves on blocks, books or chairs and then stock the shelves with grocery items and place signs by the items. The activity is done with six students at a time. The first three students have their attention directed at the merchandise signs that are placed above the shelves, and are told that these signs help the customers find what they want to buy and help stock clerks know where merchandise should be placed. Each student is given a box of food containers to be placed on the shelves, looking for the merchandise signs that show where the food containers should be placed. Once these students have stocked the shelves just as a store clerk would do, the teacher proceeds to move the merchandise signs as a store manager might do. Then the teacher tells the other three students that sometimes stock clerks must move items from one shelf to another when the store manager wants to change merchandise from one location to another. Each student is directed to take a row and to put the items

in the new location by following the merchandise signs. Finally, all six students are asked to remove the items from the shelves and place them in boxes in an area representing a warehouse since sometimes stock clerks are asked to take everything off of the shelves and send the merchandise back to the warehouse. Throughout this entire activity, it is necessary for the students to be able to crawl or squat to stock low and deep shelves with products.

Before beginning the packet's carpenter skill activity, the teacher is directed to construct the outline of a house using kindergarten blocks, chairs and tables and to place yarn through the house for the carpenters to follow. A diagram for the house maze is included in the packet. To experience the crawling or squatting skills that a carpenter needs to have to do his job, each student puts on an apron with "carpenter" on it and safety glasses. Each student carries a hammer and has a box of nails in the apron pocket. Each student must finish hammering the nail into the wood before the next student enters the building. The student follows the yarn through the house to get to the place where he or she hammers a nail into a board and follows the yarn to the exit of the house. Once that student is through with the task, she or he will give the apron, glasses, hammer and container of nails to the next student in line.

Prior to starting the packet's plumber skill activity, the teacher is required to mount stationary pipe (with goosenecks) underneath the top of a table using clamps and to arrange tunnels leading up to the table. Then the students are told they will have an opportunity to use the skill of crawling or squatting by doing part of a plumber's job. The activity begins with the first student putting on an apron with the word "plumber" on it. The student is then directed to crawl through the tunnel and under the house until reaching the pipes. After unscrewing designated parts of the pipe assembly, the student puts those pieces on the floor and crawls back from under the house and through the tunnel to get outside. The second student crawls through the tunnel and under the house until reaching the pieces of pipe on the floor. Picking up the pieces, this student screws them back onto the original pipe assembly and returns crawling through the tunnel to the outside. The same taking apart and putting back together sequence is continued until all students have had the experience.

• Assembling -- Used with grades 3-4, this packet stresses the skill of assembling an item in a specific sequence. Assembling things in order is often done by factory workers and by workers in hardware stores, who often have to assemble things to show to people. So if students can follow instructions and assemble things in order, they have a definite and employable skill.

The estimated time to complete this packet of instructional activities is 2-4 hours over a 3-week period. The objective of the activities is to assemble in sequence eight unassembled items following printed instructions. Thirty minutes are allotted for each group of 16 students, two at each of the eight assembly stations. Activities at these stations include assembling an automobile mirror, a ball point pen, a bicycle bell, a bicycle reflector, a paint roller, a wallet and card holder, a watercolor set, and a water supply pipe valve. At each station, there is a laminated direction card, necessary tools such as a screwdriver, a tray to keep parts in during assembly tasks, a picture illustrating the assembly tasks, and a student job sheet for recording the tasks each student performs.

It is suggested that the students work in sexually integrated pairs (girl and boy). Capable readers can help others or one student can steady and hold items to assist his or her partner in assembly jobs. Students are told to alternate jobs. On the first task, one would be the assembler, the other, the assistant and inspector. Roles are then reversed for the next item with each student actually assembling four items. The student in the inspector's role may also disassemble and return parts to the container for the next pair.

• Creativity -- Also used with grades 3-4, this packet focuses on the skill of creativity, which is required in such occupations as artist, weaver, and architect. The packet deals with the creativity skill that is needed to create things from scratch -- new kinds of visions, whether it is a poem, or whether it is a piece of tapestry.

The estimated time to complete to complete the activity is 8-10 hours over a 3-4 week period. Activities include making puppets, weaving wall hangings and making prints, and are designed to be used by a classroom of about thirty students. It is recommended that the class be divided into thirds, each group doing a different activity at the same time for a duration of one week before rotating to the next activity. For each station, there is a student direction card. To illustrate the nature of the activities, one of the student direction cards is shown on the next page.

PRINTING

1. Cut shapes from light weight chip board.
2. Arrange shapes on heavy weight chip board.
3. Glue shapes down. Let dry.
4. Draw a line design on another piece of heavy weight chip board.
5. Trace over line design with Elmer's glue. Let dry.
6. Shellac both designs. Clean brushes in alcohol.
7. Place a small ammount of Printoleum on 9"x12" tag board, and add a teaspoonful of tempera. Mix.
8. Roll brayer back and forth until mixture makes a crackling sound, then roll ink on design.
9. Lay paper on inked design and rub.
10. Lift print and let dry. Repeat steps 8, 9, and 10.

Teachers are cautioned that unless the creativity skills are combined to stimulate increased awareness in students, they will be just skill activities without a focus for reducing sex stereotyping. Teachers are urged to make every effort to create a total environment of a compensatory nature involving women heroes, women and men modeling non-stereotyped activities, and awareness activities involving values clarification. As examples, it is suggested that: (1) the creativity skills can be combined to provide a unit on women heroes, (2) the puppeteers can devise a play about a famous female hero from the past, (3) the printmakers can print the cover for the program, and (4) the weavers can provide the backdrop for the puppet play by combining efforts on one large scenery hanging.

• Oral Persuasion -- Used in grades 5-6, this packet emphasizes the skill of oral persuasion, which is employed in occupations such as lawyer, salesperson and politician. The objective of this packet is to increase students' awareness by showing that oral persuasion is a skill, which is used in many different jobs and which people have in varying degrees unrelated to either their sex or race. The estimated time to complete the packet is 8-10 hours over a 2-4 week period.

The packet tries to reinforce children who cannot read well but can listen and express themselves orally. Many jobs require good oral expression skills or persuasion skills. Educators, career education directors, as well as used car salesmen, etc., use these skills. In this packet, students go through a trial lawyer experience, a door-to-door salesperson experience, and then try their hand at being a radio announcer. The materials list for the three activities is shown on the next page.

Materials List

Trial Lawyer

5 Prosecuting attorney cards, 7 copies of each for a total of 35 cards, laminated.
5 defense attorney cards, 7 copies of each for a total of 35 cards, laminated.
5 title identification cards, 7 copies of each title for a total of 35 cards. Titles: Prosecuting Attorney, Defense Attorney, Juror #1, Juror #2, Juror #3
7 trial lawyer student record sheets

Door-to-Door Salesperson

1 soap box
1 brush
1 circus ticket
1 pan

Radio Commercial

12 sets radio commercial scripts, laminated
12 radio commercial student record sheets
1 sound effects record

Teacher Needs to Provide

1 or more cassette tape recorders and tapes
1 or more record players
1 encyclopedia

To carry out the Trial Lawyer activity, the teacher is directed to divide the class into as many groups of five people as possible (one or two groups may have six people) and to make sure that each group is integrated by sex and race. Although there are two alternative methods of presentation from which the teacher may choose, this activity basically gives each student a chance to use the skill of oral persuasion as a lawyer. Each person, in turn, is a defense and prosecuting attorney as well as a juror. Following the activity, students have an opportunity to discuss such questions as: If women and men have the necessary persuasive skills, does it make any difference if an attorney or trial lawyer is a woman or a man? Why? Why not?

With the door-to-door salesperson activity, the teacher is told to divide the class into five groups of approximately equal size, again making sure that each group is integrated by sex and race. After giving each group one of the props -- soap box, brush, circus ticket, pan, etc. --, the teacher explains to the class that some of them are going to be door to door salespersons and that the prop given

to them is the product they are to sell. After spending 15 minutes thinking of as many reasons for buying their product as possible, each group chooses one of its members to be the salesperson and another to be the prospective buyer of a different group's product. The activity begins with a salesperson from one group and a customer from another role-playing the sales scene in front of the room. Each group is allowed to carry out their role playing until the customer says either "yes" or "no."

To experience the oral persuasion skill used by a radio announcer, the class is divided into groups of 2-3 people each (integrated by sex and race) and each group records its own commercial. After reading a set of radio commercial scripts, the group picks one they want to record and rehearses it before making the actual reading. A sound effects record is available if the group chooses to use it. Later, recordings the students have made are played back to the entire class and discussion of the persuasive quality of each recording takes place. The final discussion question is: Does persuasive skill depend on your being a girl or boy? Why? Why not?

• Measuring -- Also used with grades 5-6, this packet employs math concepts while stressing measuring skills found in different occupations. Students go through six different work stations using measuring skills. One is, for example, an employment counselor where students use a stop watch, a measurement skill. A shoe salesclerk uses a measuring device when he or she finds out the size of someone's foot. A person who works in a grocery store, whether as a checker or the manager, must know how to read a scale. So, students weigh fruit on a scale.

The estimated time to complete the packet is 3-6 hours. In this packet, there are descriptions for six activity stations, one for each of the following occupations: tailor/seamstress (tape measure), employment counselor (stopwatch) carpenter (10-foot tape), grocery store manager (scale), shoe salesperson (shoe stick), and advertising layout person (ruler). There are student instruction sheets that are located at each of the measuring activity stations and that show how the tools are to be used. The tools and other materials to be used at the different activity stations are shown on the next page.

Materials List

Tailor/Seamstress

1 pellon pattern
1 60" tape measure

Employment Counselor

1 stop watch, in plastic box
1 dexterity board
24 pegs

Carpenter

1 15"x18" finished masonite piece
1 16"x21" finished masonite piece
1 10' tape measure

Grocery Store Manager

2 plastic bags of fruit:
  apples and oranges
  tangerines and peaches
2 plastic bags of vegetables:
  green peppers and avocado
  tomato, lemons and limes
1 food scale with bowl-like container

Shoe Salesperson

3 plaster feet, one blue, one green, one yellow
1 shoe measuring stick

Advertising Layout Person

1 12" ruler
1 piece of red paper
14 letters "Merry Christmas"
2 pictures illustrating advertisement layouts (laminated)

Before students start proceeding through the activity stations in this packet, teachers are directed to furnish them with an orientation to the following concepts. Measuring is a part of many jobs. Some workers measure something every day, and often measure several times during the day. There are many different measuring tools, and there are many different things to be measured. Some workers use several different measuring tools. People measure height, weight, temperature, time, volume, and circumference as a part of different jobs. Accuracy is very important. It is necessary to get close to the tool when taking a measurement.

After completing all six activity stations in this packet, it is expected that students will have perceived the skill of measuring as a non-sexist skill.

In summary, the isolated skills concept employed in these six packets achieves several things. It starts girls and boys thinking about jobs in terms of the skills required rather than the sex of the worker. It shows students that they can acquire a variety of skills, and it shows them how these skills can be used in many different kinds of jobs.

Set 2: Yellow, Blue, and Red Book. Used with grade levels 1-6, this three-ring note-book contains a large number of ideas for short-term activities (10-20 minute activities, 20-40 minute activities, and 40 minute plus activities), which help teachers and students to expand their awareness of sex-role stereotyping, and broaden their view of sex roles in the home and of appropriate job opportunities available for all qualified people. The notebook is divided into time sections; within each time section there are short-term activities designed to be used independently or in a selected sequence. Each activity card indicates the subject(s), the suggested grade levels, and the objectives for the activity.

The Yellow, Blue, and Red Book can serve as a catalyst for additional activities in the classroom which aid and enrich students' options for full participation in the work world. This notebook is intended to be a growing piece of curriculum material. Those schools wanting to adopt or adapt Project Equality materials can add to the notebook as new commercial or teacher-developed materials are available. Pertinent articles and local resources can easily be placed in the appropriate sections of the three-ring binder. If all the activities presently contained in the binder were implemented with students, the time required would be from three to five hours over a three-week period.

The following is a portion of a 10-20 minute activity card from the Yellow, Blue, and Red Book.

LANGUAGE ARTS
GRADES 5-6, ADAPT for 3-4 WATCH YOUR LANGUAGE
10-20 MINUTE ACTIVITY

OBJECTIVES:

1. To become more conscious of language connotation.
2. To decrease sex role stereotyping.

SEX ROLE STEREOTYPING -- is the unquestioned and unchallenged assumption by an individual or a group that certain actions, abilities, interests, behavioral patterns, etc., are natural and innate to one sex, but not the other. Language is a reflection of our thoughts and values, and a powerful tool in the learning process. The use of sex role stereotyping in language is referred to as SEXIST LANGUAGE. Sexist language can be identified when the language narrows participation or reference on the basis of sex. The following could be considered sexist language:

A MAN OF THE PEOPLE	A TWELVE-MAN TEAM
ALL MEN ARE CREATED EQUAL	A MAN-ON-THE-STREET INTERVIEW
A ONE-MAN SHOW	ONE MAN, ONE VOTE
A MAN FOR ALL SEASONS	THE MAN FOR THE JOB

Many of these terms evolved when women did not share in all aspects of life; however, that is certainly not the case today, nor does it fit into projections for the future.

To start this "Watch Your Language" activity, teachers are directed to select two generic traditional terms or phrases from the list on the card or another source and list them on the chalk board. Students are to write down as many other ways as they can think of to state the concept expressed by the term or phrase on the board. The students then report back to the class their alternative wording and list them on the board, explaining their new choice of words. This activity can be repeated from time to time to increase the students' awareness of the words they use and the words that are used around them.

Below is a portion of a 20-40 minute activity card from the Yellow, Blue, and Red Book.

SOCIAL STUDIES
GRADES 3-6, ADAPT for K-2 RESPONSIBILITY AND CARING IS EVERYONE'S JOB.
20-40 MINUTE ACTIVITY

OBJECTIVES:

1. To develop comparison/contrast skills.
2. To develop discussion and reasoning skills.
3. To increase awareness that tasks should be assigned and carried out by ability and willingness, not by sex.

ACTIVITY
DAY ONE - 15 MINUTES
Divide the class into six groups: two all female, two all male and two mixed. Have each group select a recorder and supply them with large pieces of paper. Have each group compile a list of tasks usually associated with males (about 5 minutes). Have each group compile a list of tasks usually associated with females (about 5 minutes). Display the lists around the room.

DAY TWO - 15 MINUTES
Discuss the lists. Suggested questions:

1. How do the lists differ? How are they the same?
2. Can a boy accomplish the tasks on the girls' list?
3. Can a girl accomplish the tasks on the boys' lists?
4. How many people in this class do the tasks on both lists?
5. Are there some tasks that some people think you should do just because you are a boy or girl?
6. Why do you think you chose the tasks you did for girls? For boys?

Teachers are cautioned when beginning this activity to be aware of any pattern that might emerge in the single sex groups. In addition, teachers are alerted to assess the results of the group activities by asking questions such as: Are activities for girls related to the home? Keeping clean? Doing light physical work? Are activities for boys related to the outdoors? Do their tasks

involve physical strength and muscular exertion? Is it permissible for a boy to get dirty doing a job, but not a girl?

Here is a portion of a 40 minute plus activity card from the Yellow, Blue, and Red Book.

LANGUAGE ARTS
GRADES K-6
40-MINUTE PLUS ACTIVITY

EXPERIENCING A DAY OF LANGUAGE REVERSAL

OBJECTIVES:

1. To explore the implications of using exclusive male language patterns.
2. To decrease sex role stereotyping

ACTIVITY
As a class project, reverse all pronouns and word usage, whether in reading or speech, which depict the sex of the person. Substitute "She" for "He" and female words for all inclusive generic terms for people, i.e., use "womankind" instead of "mankind." The teacher should make a special effort to impress upon students that the female terms which are used to mean everybody--REALLY MEAN EVERYBODY!

Following this activity, teachers are encouraged to discuss with their students how the use of the reverse words made them feel. Did certain students feel left out because the words to depict females were used more often, even though students were told that the words mean everybody? Did certain students feel somewhat better to be included in the language on a regular basis? Are the words we use important? Additional discussion questions included: Do we need to be concerned with clearly identifying who we are talking to -- students, just boys, just girls, or people in general? Should new pronouns be established to be more inclusive of everyone?

Set 3: Many Thousand Words - Work Pictures. This three-ring notebook, used with grades 1-6, contains a set of 8 x 10, black and white pictures of women and men, and girls and boys in a variety of non-stereotyped work settings at home, school, and in the community depicting various skills and abilities. The Many Thousand Words contained in the Work Pictures are intended to communicate a new vocabulary and educational experience to students. A key assumption is that students' perception of the world of work can be greatly expanded through visual communication, that seeing is a large part of believing. The Many Thousand Words - Work Pictures are assembled to complement and to supplement already existing pictures of females and males engaged in traditional jobs and activities by showing similar people engaged in nonstereotyped jobs and activities.

In discussions following use of the Work Pictures with students, teachers

are encouraged to keep in mind several concepts. First, personal choices are not limited by sex. Skills and abilities are not predetermined by sex. Traditional viewpoints of acceptable work for women and men are changing. Some signs of change include: boys taking home economics classes, girls taking auto mechanics and wood shop classes, increasing numbers of men entering nursing, and more women becoming doctors. Second, skills learned in the present are related to future job skills. When the pictures depict situations the students may have experienced, teachers are urged to ask if anyone in the class has ever done that job at home or in the classroom, and to discuss various skills students are now learning or using in terms of future job skills. Finally, teachers are expected to stress that everyone is learning survival techniques for jobs done at home, whether it is caring for their clothes, cleaning up after themselves, or food preparation. Work at home helps students to develop self-reliance and confidence in their ability to take care of themselves.

To aid the teacher in focusing on the importance of all people engaged in many types of labor, there are a few suggested discussion questions on the back of each picture. The format for the questions on the back of each picture is illustrated by the following questions from the Newspaper Carrier picture in the Work Pictures - Children section of the notebook:

NEWSPAPER CARRIER

1. What do you think this girl is doing?
2. What makes you think so? How can you tell?
3. What skills do you think might be required to be a newspaper carrier?
4. Can both girls and boys learn to be newspaper carriers?
5. Do you know of anyone who is a newspaper carrier?
6. Name some other jobs this newspaper carrier could do with her skills.

and by the following questions from the Nurse picture in the Work Pictures - Adults section of the notebook?

NURSE

1. What do you think this man's job is?
2. What makes you think so? How can you tell?
3. What skills do you think might be required to be a nurse?
4. Can both women and men learn to be nurses?
5. Do you know of anyone who works as a nurse?
6. Name some other jobs this nurse could do with his skills.

Supplementary Commercial Materials. To help deal with the problem of biased materials, the project came up with a traveling media display. There is one for elementary. one for junior high and one for high school. In each case, it consists of materials that Project Equality has reviewed and found to be sexually and racially non-biased, or useful in an affirmative sense. Each display has about 100 items, including books, film-strips and other materials. Arrangements are made with the librarians at the beginning of the year to schedule the display into the various schools. At the elementary level, the schedule is fairly rigid because the teachers typically do not teach subject matter courses. Consequently, the elementary schedule is arranged by schools. As many as from 7-9 schools can be served with one display. At the junior and senior high levels, where a teacher might be doing a unit on American History and wants to include a 2-3 week unit on the role of women in American History, arrangements are made for the display to be at the school for that time and the teacher has much of the collection in the room.

A fourth grade teacher using Project Equality materials remarked:

> The media display has over 120 different items, largely books showing boys and girls in more equal roles, non-stereotyped roles. I use it in my classroom just as a supplemental reading center. The children go through the books and read the materials. Some of the stories are really good. After we got that media display all set up in our room and had it there for a few days, one of my boys came up and asked, "How come these are all girl books?" I asked him what made him think they were all girl books, and he said, "Well, the stories are all about girls and women."
>
> I didn't say "yes, you're right" or anything like that. I said "Let's do a little experiment."
>
> We got about 10 different reading books that we had had in the room for some time. We counted the number of pictures of boys and the number of pictures of girls. Not necessarily what they were doing, just the number of times a picture shows a boy or a girl. We were getting like 400 pictures of boys and 130 pictures of girls. I asked him about those books, if those were all boy books. The other kids really picked up on that. Everybody went through two or three books. Then we went back to the media display and we found out that the media display books were more balanced, as to the depiction of boys and girls in the pictures. We didn't carry it any further as to what they were doing, whether it was an active or passive activity being shown. It was a satisfactory answer for him and it was a good learning experience for everybody.

Common Characteristics of Materials. All Project Equality materials have been designed to have the following characterstics:

- They provide content material which can expand students' perceptions of occupations open to females and to males.

- They fit within the context of subjects the teacher is already expected to cover in the classroom.
- They are self-contained.
- They are easily adapted to different classroom settings.
- They do not require any additional teaching or support staff members for implementation.

Teacher Reactions

In general, teachers were very responsive to incorporating Project Equality materials and related activities into their classrooms. The following are comments of a first grade teacher in the Highline District:

> It's very easy to incorporate this [Project Equality materials] in first grade because at the beginning of the year you are teaching units about the home and family and also about jobs at school. We just use this as part of our reading vocabulary development. We talk about what jobs Father does and what jobs Mother does. We introduce the words "work" and "skill," and we talk about the responsibilities at home and who should be responsible for the different jobs at home. We then go through the same thing at school, and talk about who should clean the erasers and who can pass the papers, etc. So, it's very easy to introduce this as part of the basic skill program of reading development.
>
> We found that this year there were some children who had been in the program last year, and were very, very open to the ideas of equality and that everyone can share jobs and responsibilities. I could see a noticeable difference between these children and children who came from another school and did not have this opportunity. First graders are very open to suggestions from their teachers. Just about anything that I suggest to them they will accept, and take that as their own idea.
>
> I think the children are more accepting of each other. If someone expresses an interest in something that has been stereotyped in the past, the other children don't react to it.
>
> We were reading a story about "The Gingerbread Boy." I had explained to the children that I didn't like this particular book, although it was a brand new book. It had so many pictures of boys and all the stories were about boys. There were so few girls in there that I felt it was unfair to girls and particularly it was unfair to our reading group which was split just about half and half. So, we decided that we would change the story of "The Gingerbread Boy" to "The Gingerbread Girl." This was kind of a voluntary thing on the part of the children. They picked up on it and they chose to change the pronouns from he to she, etc. It was so natural that not one of the children in the reading group questioned that we were doing that. They just seemed to accept it.

Below, a fourth grade teacher in the Highline District reports on the impact he observed of materials from the traveling media display:

> Some of the things we do with careers and reducing sex-role stereotyping are through watching film-strip kits. In the film-strip kit, people of both sexes are doing jobs, some in stereotyped roles and some in non-stereotyped roles. I always ask the children if a woman could do that job or if a man could do that job, the opposite of whatever is being shown on the film strip. The children seem to think that it really doesn't make any difference if you're a man or a woman as to what type of job you do, with a very few exceptions.
>
> I notice as a result of using the Project Equality materials less animosity between the boys and girls. I used to see that an awful lot -- "Oh, that's boy stuff" or "Oh, that's girl stuff." But I don't see that as much now. I think the outlook of what a lot of the girls would like to be has broadened.

PARENT AND COMMUNITY INVOLVEMENT

Parent and community involvement was not an essential feature of Project Equality during its implementation in the Highline School District and need not be in districts adopting the project. However, several community agencies were involved in the preparation of the initial grant application submitted for federal funding. These organizations were: (1) National Organization of Women, Highline Chapter; (2) League of Women Voters; (3) Alternative Schools Committee; (4) Women and Girls in Education; and (5) Evergreen High School Girls Club. The extent of involvement included participation in the writing committee, critique sessions, and two-way communications with individuals representing these organizations. Additional involvement from the Highline community during the development of the grant application included a survey of 386 girls' opinions regarding career needs of girls which was sponsored, typed and summarized by the Evergreen High School Girls' Club and which was included as a part of the "Need" statement of the application. These activities and communications with these groups were helpful during the early phase of the project; however, after developmental tasks were completed and the instructional materials were ready for use, the implementation phase of the project did not require active parent and community involvement.

The Project Equality staff recommends to adopting districts that provision be made to disseminate information about Project Equality before implementing the project with students. Also desirable are periodic news bulletins on project activities and the availability of avenues through which members of the community may share their interests and concerns about the project with school district officials. Desirable supportive attitudes from the community include awareness of:

- The school district's effort to provide a program for students designed to reduce sex-role stereotyping, the objectives of Project Equality, and the location of developmental sites and the personnel involved.
- The highlights of the project's initial year of implementation.
- Needs for assistance from community agencies or citizens in providing the students with exposure to or field experiences in non-stereotyped careers.

STAFFING AND MANAGEMENT

Overview

To plan, develop, carry out and evaluate a sex stereotype-free career education program in the Highline School District, Project Equality operated with three people: a director, an information facilitator, and a secretary. However, for school districts interested in adopting Project Equality, a staffing plan involving a part-time director and a part-time secretary has proven to be satisfactory. Project Equality staff recommend that an adopting school district consider these staffing requirements and activities in the following areas: planning, instructional material use, evaluation of student change, and feedback sessions with a consultant.

Planning. In June, preceding the implementation year, a planning session would be held with district administrators and the Project Equality staff. The results of this session would be the selection of one teacher at each grade level in three elementary pilot schools and the identification of necessary activities in the implementation sequence; workshop dates, material use, test dates, feedback session and assignments of responsibilities would be outlined.

Use. Project Equality curriculum packets would be acquired and used at a two-day inservice training workshop for the pilot teachers, principals and administrators. With adequate implementation knowledge, teachers would use the Project Equality materials in their classrooms according to schedule.

Evaluation. The "Who Should" test would be given to students before and after they use Project Equality materials. Reports of the "Who Should" test results would be provided and communicated to pilot teachers, principals and administrators in the manner identified at the planning session.

Feedback. During November and December and again in April and May, feedback sessions would be held with pilot teachers, principals and administrators.

Appropriate steps for incorporating the Project Equality curriculum packets into the existing educational resources system, available to all elementary educators in the school district, would be outlined as well as how the program could be further implemented in other elementary classrooms.

Staffing

The following chart shows the key requirements for the staff positions of part-time director and part-time secretary.

	Staff Functions
Project Director	• Organize and direct all planning activities to accomplish the project goals and objectives.
	• Coordinate staff, teacher participation and program components.
	• Organize needed workshops for district personnel and parents.
	• Direct budget expenditures.
	• Coordinate the collection of evaluation data.
	• Work to infuse the goals and objectives of Project Equality into the existing curriculum.
	• Work with teachers in dealing with the reality of work for females and sex-role stereotyping.
	• Maintain and update the traveling media display.
	* * *
Secretary	• Carry out general office duties.
	• Keep project records.
	• Type reports and correspondence.
	• Assist people seeking knowledge of the project or of developed or acquired project products.
	• Aid the director as may be necessary to further the goals and objectives of Project Equality.

Management Strategies

Project Equality staff recommend that the following list of implementation activities and completion dates serve as a general management outline for potential adopters of Project Equality.

	Implementation Activities	Completion Date
1.	Pilot schools and teachers are selected, notified and confirmed. Evaluation design is formulated. Workshop, material use, testing, district information feedback session dates outlined. Areas of responsibility outlined and assigned. Known printing requirements outlined and scheduled. Curriculum materials ordered. August workshop outlined. Housing and delivery system for Project Equality packets identified.	June
2.	Workshop format and printed material requirements finalized. Who Should test packets ordered and printed.	July
3.	Workshop materials printed. Two-day workshop held. Housing and delivery system for Project Equality packets becomes operational.	August
4.	Who Should pretest administered. Project Equality packets used in the classroom. Information concerning Project Equality provided through district publications. Pilot schools inform parents of Project Equality curriculum packet use.	September
5.	Who Should posttests administered. Project Equality packets used in the classroom. Prepare for Feedback Session 1.	October
6.	Who Should pre- and posttests processed. Project Equality packets used in the classroom. Preparation for Feedback Session 1 finalized.	November
7.	Feedback Session 1 held. Review Feedback Session 1, make identified program changes. Project Equality packets used in the classroom.	December
8.	Who Should pretest administered. Project Equality packets used in the classroom.	January
9.	Who Should posttests administered. Who Should pre- and posttests processed. Project Equality packets used in the classroom.	February
10.	Prepare for Feedback Session 2. Project Equality packets used in the classroom.	March

11.	Who Should tests administered on follow-up basis and processed. Preparation for Feedback Session 2 finalized.	April
12.	Feedback Session 2 held. Review Feedback Session 2. Evaluation report outlined. Final report outlined.	May
13.	Final evaluation report compiled. Final report completed.	June

Inservice Training

If new materials or strategies are to be used, teachers and other staff must be effectively trained in how to use them so that they become part of a school district's fabric. The basic inservice training workshop for Project Equality is held over a two-day period of time, for approximately six hours per day. The inservice training workshop examines the need for new approaches in curricular design and teaching strategies, and stresses the following themes: (1) the expanding role of women in the world of work, (2) cultural stereotyping of girls into restricted roles, (3) curricular stereotyping of materials and course content, (4) recommended directions for change, and (5) essentials of Project Equality implementation. Further detail on these topics is provided in the following chart.

Inservice Workshop

Themes	Content
Women's Expanding Work Roles	Longer life span, new legislation restricting sex-identification of jobs, and a reduced birth rate have increased the length of time women will be working and have made more varied work roles a definite probability.
Cultural Stereotyping	Cultural and social influences have restricted girls from performance tasks and tended to concentrate on the homemaker aspects of women's activities. This, in turn, limits the training and eventual competitive potential of girls.

Themes	Content
Curricular Stereotyping	Schools generally make little or no attempt to provide alternatives in this channeling process. Rather, the courses and materials tend to accent the stereotyping process. Girls are offered fewer performance or task-oriented learning activities and are exposed to fewer successful models; they are bombarded with materials which portray the "typical" woman's role.
Directions for Change	Based on several studies, the Women's Bureau of the U.S. Department of Labor has made the following recommendations regarding the educational programs for girls and women: 1. Curricula in education at all levels should be made relevant to the changing role of women today, and textbooks and materials should reflect non-stereotypical images of women and girls. 2. Educational television and other media and materials should be developed to improve the self-image of girls and women as rational, mature human beings. 3. Girls should be encouraged to enter a wider range of skill training programs, including apprenticeships. 4. Vocational programs for girls should be instituted in all junior high schools. 5. Secondary schools should offer special courses on the roles of women in our society. 6. Textbooks, including preschool readers, should contain role models of women and a variety of lifestyles.
Essentials of Implementation	1. Acquaint the participants with the Isolated Skill Concept used in the Occupation Simulation Packets; 2. Acquaint the participants with the Media Display, Yellow, Blue and Red Book and Many Thousand Words - Work Pictures; 3. Review procedural and individual district requirements for implementing Project Equality; and 4. Acquaint the participants with the evaluation design to determine the impact of the project upon participating students.

COSTS

Presently, Project Equality members are available as consultants to train local district staffs to use materials with students in the classroom. Project staff suggest that adopting districts plan to involve the following personnel: the district career education director and/or curriculum director; an elementary principal; an elementary school librarian; and six elementary teachers. A district adopting all Project Equality materials, though not planning to purchase commercial materials to assemble the Media Display, should plan to assume costs for the following:

- A two-day training session for staff members implementing the materials
- Two half-day followup meetings after the training session
- Adoption of Occupation Simulation Packets
- Adoption of the Yellow, Blue, and Red Book
- Adoption of the Many Thousand Words - Work Pictures
- Evaluation consultation for pilot testing of materials

Approximate Costs for Adoption of Project Equality Materials
(Excluding Contracted Services for Training Workshops and Follow-Up)

Staff	First-Year Implementation Costs
Project Equality Director	$1,800
Secretary	1,000
Staff Development	
District Implementation Team 1 Career Education Director 1 Elementary Principal 1 Elementary Librarian 6 Elementary Teachers	$1,400
Materials	
Occupational Simulation Packets & Kits	$1,495
Yellow, Blue and Red Book (5 copies)	250
Many Thousand Words - Work Pictures (5 copies)	200
Contracted Services	
Evaluation consultation for pilot testing of materials - 2 days @ $100/day	200
	$6,345

The estimated costs for operation in subsequent years (replacement of lost or damaged items and staff costs) are $2,875.

Since the materials could be used by all district elementary students in turn, per pupil costs would depend on total number of district K-6 students. Assuming a district had 3,000 K-6 students, per pupil costs would be:

First year:	$2.11
Subsequent years:	.95

The cost of purchasing commercial materials for assembling the optional media display is estimated at $1,360. The cost of contracted services for in-service training workshops and follow-up feedback sessions is obtainable from Project Equality upon request.

EVIDENCE OF EFFECTIVENESS

Claims of Effectiveness

After project materials were developed and extensively revised during the first three years of project operation, they were field tested during the 1977-78 school year in two school districts in the Seattle area. These districts, the Northshore and Bellevue School Districts, are very similar to the Highline School District -- predominantly middle-class with 90% or higher white populations. The three objectives listed earlier on pages 4 and 5 were met in a majority of cases, leading to the general conclusion that target students had expanded their occupational perceptions to include non-stereotyped jobs for both sexes.

Interpretability of Measures

The "Who Should" test was the outcome measure for all sets of materials. Experts on sex-role stereotyping at the elementary level reviewed both versions of the test and confirmed their face validity. Test-retest reliability and item validity were assessed in a school district that had not been exposed to instrument and materials development activities and where women's rights were not formally included anywhere in the curriculum. The reliability and item validity coefficients were found to be within acceptable limits.

Credibility of Evidence

For the 1977-78 evaluation of student outcomes, all tests were administered by the students' classroom teachers. All teachers had received two days of

training and followup consultation from the Project Equality staff on how to implement the materials and how to conduct the pre- and posttesting. During these sessions, teachers were instructed to read test directions and items slowly, to stay as close to the script as possible in order to keep instructions similar for all classrooms, and to use a neutral tone of voice. Teachers were told to repeat questions, if necessary, to allow students enough time to think over the questions before marking their answers.

The K-2 form was administered in two sittings during the same day. The 3-6 form was administered in one sitting. Scoring was done by project staff, with two persons independently scoring each test as a check on accuracy. Scores were key punched for computer analysis and all key punching was verified. Project staff members were also responsible for final analysis and interpretation of results.

Evidence of Impact

Evaluation design. The study to assess impact was conducted with K-6 students in the Northshore and Bellevue School Districts. The study was designed to provide pre- and posttest measures of performance on treatment and control students for each packet or set of materials. The rationale for this design was that real student growth could be assumed to have occurred if the group mean pretest difference was not statistically significant and group mean posttest difference was statistically significant following use of any one set of materials with the treatment group.

In each district, treatment schools were selected from the middle range of average school-wide achievement scores within the district. For each treatment school, another district school was selected whose average achievement scores matched those of the treatment school as closely as possible. Because of practical constraints on evaluation in actual school settings, teachers in the selected treatment schools were asked to volunteer to use Project Equality materials in their classrooms. District field test coordinators selected teacher participants from among these volunteers, paying particular attention to achieving a mix of teachers which was representative of the whole district. Control school teachers were also volunteers and were selected on the same basis. The total number of teachers implementing Project Equality materials in the two districts was 37, while the number of control group teachers was 47.

Results. To display the amount of student growth after implementation of Project Equality, Table 2 has been constructed to show score gains for the treatment students in standard deviation terms. Each value in Table 2

represents the treatment students' score gain divided by the pre- or posttest standard deviation, whichever is larger. That is, each value is equal to:

$$\frac{\text{posttest } \bar{X} - \text{pretest } \bar{X}}{SD_{\text{larger}}}$$

The larger standard deviation was chosen so that the result would be more conservative estimate of student gains.

As shown, six of the seven materials produced gains of over one standard deviation at one or more grade levels. Eighteen out of 20 gains were greater than one-third of a standard deviation. Gains of one-third standard deviation or more were obtained at every grade level that was tested. These results were obtained in the relatively short time of two to three weeks, using only one set or packet of materials. It is probable that use of more than one set of materials over a longer period would increase impact further.

Table 2
Ratio of Treatment Students' Gains to Larger Standard Deviation (Pre- or Posttest)

	Grades						
	K	1	2	3	4	5	6
Yellow, Red, & Blue Book		1.13		.71	1.38	.52	.63
Many Thousand Words		.72		.62	.22	.61	.63
Color Discrimination			1.12				
Crawling & Squatting	.34	1.08	1.73				
Creativity				1.33	1.29		
Assembling				1.31	.10		
Measuring						1.05	.37

Generalizability

The evidence given above demonstrates that these materials are highly effective with populations such as those in the Northshore and Bellevue School Districts. These populations are mainly white and middle class. It is worth noting that all materials, especially those for direct use with students, are unusually attractive and present simple, intriguing activities which make use of skills most students already have regardless of their achievement levels.

Favorable Review by Joint Dissemination Review Panel

The Joint Dissemination Review Panel (JDRP) was established by the Education Division of the Department of Health, Education, and Welfare in 1972. The joint U.S. Office of Education - National Institute of Education (NIE) Panel currently has 22 members, eleven from each agency, appointed respectively by the Commissioner of Education and the Director of NIE. The JDRP meets periodically to review the evidence of effectiveness submitted for a wide variety of federally supported educational products and practices, with effectiveness being the sole criterion for approval by the JDRP. It is charged with the responsibility of ensuring that educational interventions - projects, products, or practices - have been shown to have positive impacts on their recipients before they are disseminated with federal funds or endorsed by the Education Division.[1]

In May 1978, the JDRP reviewed Project Equality and approved it for nationwide dissemination.

CONCLUSION

Washington State law and national Title IX legislation both speak to decreasing sex discrimination in all aspects of the education system. In recent studies it has been found that schools, for the most part, are not fully demonstrating the past, present, or future participation of females in a variety of work roles in textbooks, audio-visual materials, career education programs and teaching strategies. Across the country educators are attempting to develop and acquire media and materials which present females and males in non-stereotyped occupational and personal roles. The materials outlined in these objectives fit this requirement, and have been tested in an experimental atmosphere and found to be effective. Project Equality's contributions are a positive step in the direction of improved student self-concept, which can serve to benefit all students and the educational system in which they function.

The original Project Equality Director concluded, "Anything we have done here could be incorporated in any career education program I have seen across the country. The materials present simple, interesting, bias-free activities which demonstrate that work skills can be possessed by persons of both sexes. The materials are relatively low in cost and they are adaptable in every way within any K-6 curriculum."

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[1] Tallmadge, G.K. The Joint Dissemination Review Panel: IDEABOOK. Washington D.C.: NIE/DHEW, September 1977.